IICT has been participating in the proficiency tests, conducted by the organization for prohibition of Chemical Weapons, Netherlands to get the designation status, so that the chemicals in trace levels covered under chemical weapons convention can also be analyzed.

Progress under Jai Vigyan Scheme

803. SHRI NANDI YELLAIAH: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the details of progress made so far by the Department of Science and Technology under the National Jai Vigyan Science and Technology Mission;

(b) the details of progress made on new generation of vaccines specially with regards to HIV/AIDS, which has become a great menace to our Nation and the entire World;

(c) whether Government would assure of releasing more funds to expand the research projects concerning early solutions in patenting new generation vaccines expeditiously for HIV/AIDS;

(d) if so, the details thereof; and

(e) if not, the reasons therefor?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI KAPIL SIBAL): (a) Department of Science and Technology is implementing four Jai Vigyan National Science and Technology Missions. The progress is as follows:

i. Mission for Visually Impaired

A LPG stove has been successfully designed and demonstrated which helps the blind towards understanding the position of hands in the 3D space in relation to the burner and knob position. It has a provision for auto ignition of burners.

A manually operated machine has been developed for printing different types of maps for visually impaired. Semi-automatic screen printing machine is being developed in order to improve the quality of maps and printing in larger formats.

ii. Mission for Natural Hazard Mitigation in Himalaya

Seismic observatories have been installed and commissioned at five locations in North-Eastern India. A multicomponent programme to monitor geomagnetic, geoelectrical and very low frequency (VLF) electromagnetic emissions to isolate and understand the nature of precursory signals of earthquakes in the Himalaya has been initiated. Microzonation map of landslide affected area between Banderdeva and Gohpur in Arunachal Pradesh has been prepared.

iii. Area Development Mission for Andaman & Nicobar Islands

A Plasma Pyrolysis Plant based on indigenous technology has been set up for disposal of plastic waste at Port Blair. Inventory of medicinal plants with special reference to plants used by the indigenous tribes and settlers has been completed. Training programmes on fish and prawn aquaculture and solid waste management through vermiculture techniques have been conducted for skill development of the beneficiaries of the island.

iv. Jai Vigyan Swasthya Project for Rural Areas

Software has been developed and hardware has been procured. The Core Centre (Hospital) has started functioning at Vijayawada. Connectivity of the Core Centre with Regional Diagnositc Centres (RDCs) and General Practitioners (GPs) has been established.

(b) the Department of Bio-technology is supporting research and development efforts towards development of new generation vaccines for diseases like Cholera, Rabies, Tuberculosis, Malaria, Japanese Encephalitis and HIV/AIDS under the National Jai Vigyan Science and Technology Mission. The details of progress are as follows:

i. Cholera:

An indigenous recombinant oral vaccine based on VA 1.3 strain on *V. cholerae* has been developed and extended Phase-I/Phase-IIa clinical trial have been undertaken. A new vaccine strain VA 1.4 without the ampicilin marker has been prepared and is undergoing toxicological studies.

ii. Tuberculosis:

Recombinant forms of two promising candidate T-cell antigens of *M. tuberculosis* i.e. ARR65, ARR213 are being tested for immune response. Recombinant approach for the development of novel candidate vaccine/s against tuberculosis is being studied by expressing six antigens of *M. tuberculosis* using different vectors and *E. coli* expression system.

iii. Rabies:

The world's first Combination Rabies Vaccine consisting of DNA vaccine and a low dose of inactivated cell-cultured Rabies vaccine for control of Rabies in dogs has been developed. The vaccine was found to confer 100 per cent protection in experimental animals. The Indian Immunologicals Ltd., Hyderabad, will commercialize this vaccine after successful completion of the multicentric animal trials and approval by the regulatory authorities.

iv. Japanese Encephalitis:

A vaccine based on Indian strain of Japanese Encephalitis Virus (JEV) has been developed, the technology has been transferred to Industry for further testing and commercialization.

v. Malaria:

Good Laboratory Practices (GLP) grade vaccine production facility has been established at the International Centre for Genetic Engineering and Bio-technology (ICGEB), New Delhi. Methods have been developed to express recombinant *Plasmodium falciparum* Merozoite Surface Protein (PfMSP19) and the technology is being scaled up by Industry. Clinical trials sites are being developed.

vi. HIV

A prototype Candidate Vaccine for the HIV-I Subtype 'C' has been developed based on plasmid DNA and Modified Vaccinia Ankara (MVA) approaches. The prototype HIV-I Vaccine candidate induces a robust and broad based clade-specific and cross-clade immune response in immunized monkeys and is now ready for preclinical toxicological studies. Negotiations

with an Indian industry are also in progress for Good Manufacturing Practices grade production of vaccinogens; and to coduct human clinical trials.

(c) and (d) Contemplating the future scenario of HIV/AIDS in India, the Department of Bio-technology has provided required financial assistance and logistic support towards launching major multicentric and interactive R&D projects for development of diagnostic test systems, molecular typing of HIV/AIDS isolates, immunological and virological responses in normal and infected human subjects, vaccine delivery systems and establishment of a virus bank, which have paved the way towards design and development of appropriate vaccine candidates in this country. New programmes have been initiated for identification and characterization of HIV receptors on spermatozoa, factors responsible for gene regulation in HIV infection and its replication. Currently, efforts are underway towards formulation of projects for identification and standardization of various parameters/assay protocols to be used during human clinical trials to measure the appropriate immune response of the vaccines. It is also planned to develop additional clinical trials sites for future testing of the candidate vaccinogens and development of production facilities for vaccinogens under Good Manufacturing Practices (GMP) conditions with the involvement of Indian biotech industries. The Department is addressing the relevant issues on patenting of new generation vaccines and regulatory aspects.

(e) Question does not arise.

Irregularities in Recruitment Process

804. SHRI A. VIJAYARAGHAVAN:
SHRI K. CHANDRAN PILLAI:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the Members of Parliament submitted letters dated 18th March, 2002, 17th September, 2002, 28th September, 2004 and 26th October, 2004 regarding irregularities in the recruitment processes of scientists, technical officers, section officers and assistants in National Institute of Science Communication & Information Resources and Council of Scientific and Industrial Research (CSIR); and